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CHAMAESYCE CORDIFOLIA (EUPHORBIACEAE) NEW TO OKLAHOMA

JASON R. SINGHURST
Wildlife Diversity Program
Texas Parks and Wildlife Department
Austin, Texas 78704
Jason.Singhurst@tpwd.state.tx.us

AMY K. BUTHOD
Oklahoma Biological Survey/Oklahoma Natural Heritage Inventory/
Robert Bebb Herbarium
The University of Oklahoma
Norman, Oklahoma 73071

WALTER C. HOLMES
Department of Biology
Baylor University
Waco, Texas 76798-7388

ABSTRACT

Chamaesyce cordifolia (Euphorbiaceae) is reported as new to the state of Oklahoma. It is now known there from two collections, apparently at the northwestern edge of the distribution of the species.

KEY WORDS: Euphorbiaceae, *Chamaesyce*, Atoka County, Pushmataha County, Oklahoma, USA.

Chamaesyce [*Euphorbia*] *cordifolia* (Elliott) Small (Euphorbiaceae; heartleaf sandmat) is a prostrate annual with stems to 65 cm long, entire leaves, and styles that are bifid to the base (Diggs et al 1999) (Figs. 1, 2]. The species occurs in loose sandy soils in the southeastern coastal plain from North Carolina south to Florida and west to Arkansas and Texas. It was not included in the flora of Oklahoma by Waterfall (1966) or Taylor and Taylor (1994), and it is not cited as part of the Oklahoma flora in USDA, NRCS (2012) or the Oklahoma Vascular Plants Database (2012). Based upon the specimens cited below, *C. cordifolia* is here reported as new to Oklahoma.

Voucher specimens: **USA. Oklahoma.** Atoka Co.: Boehler; 0.5 mi W of Boehler, 13 Aug 1976, *L.K. Magrath, J. Taylor, & A. Lavallee 9476* (OKL, Fig. 1). Pushmataha Co.: 0.1 mi. W of Jct. of Co Rd 1940 (N Hall Rd) and Co Rd 4100 on Co Rd 1940, N side of Co Rd 1940 (34° 12' 1.42" N, 95° 43' 47.23" W), 2 Jun 2007; *J. Singhurst 19083* (BAYLU).

The area of the Magrath et al. collection from 1976 is the Boehler Seeps and Sandhills Preserve owned by the Oklahoma Chapter of the Nature Conservancy. The Taylors obviously knew it was there but failed to get it into the last edition of Taylor and Taylor (1994). It might have been because the specimen itself went missing; it just recently turned up in a box received (within the past two years) from Larry Magrath's herbarium in Chickasha, Oklahoma, that was sent as a gift to the BEB Herbarium.

There is, however, another undocumented citation of *Chamaesyce cordifolia* in Oklahoma. Bridges et al. (1985), in an inventory of the vegetation of the Boehler Seeps and Sandhills Preserve in Atoka County, mentioned observing a population of *C. cordifolia* there. Steve Orzell provided the following comments extracted from their (Bridges & Orzell) collection records: "We were in OK collecting May 27, 1985 thru June 1st with John & Connie Taylor but NO [upper case by Orzell]

collections of *Chamaesyce cordifolia*. We were also collecting in OK in March 25, 1987... but no specimens of *Chamaesyce* ... ."

The cited Oklahoma occurrences apparently represent the northwestern edge of the distribution of the species. *Chamaesyce cordifolia* is documented in Miller Co., Arkansas (Witsell 07-0597 & 11-0443 (ANHC)), which is approximately 225 km to the southeast. In Texas, the nearest known occurrences are from Bivins, Cass Co. (*Correll 26414*, LL), about 200 km to the southeast, and Roanoke, Denton Co. (*Lundell & Lundell 9547*, LL), about 185 km to southwest.

In Atoka County, *Chamaesyce cordifolia* occurs in open areas in upland oak woods over Atoka sand. Specific associates include *Paronychia drummondii*, *Polygonella americana*, and *Dalea phleoides* var. *microphylla*. In Pushmataha County, *C. cordifolia* occurs in Post Oak Savanna xeric sandhill openings over Atoka sand. The areas are dominated by *Aristida desmantha*, *Cnidoscolus texanus*, *Croptilon divaricatum*, *Eriogonum multiflorum*, *Helianthemum georgianum*, *Matelea cynanchoides*, *Paronychia drummondii*, and *Penstemon murrayanus*. The *Chamaesyce* presumably will be ranked S1 by the Oklahoma Natural Heritage Inventory, indicating that its is "critically imperiled in the state because of extreme rarity or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the jurisdiction" (Oklahoma Natural Heritage Inventor 2012, NatureServe Explorer 2012).

Figure 1. *Chamaesyce cordifolia* (*Magrath et al. 9476*, OKL, see Voucher specimens), the first known collection of the species from Oklahoma. Inset shows scale.

Figure 2. *Chamaesyce cordifolia* in natural habitat in Aransas Co., Texas (photo by William R. Carr).

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